

CLAIMS

We Claim:

1. A composition for forming a seal comprising: (a) a hydrogel and (b) a base material.
2. The composition of claim 1, wherein said base material is a polymer.
3. The composition of claim 2, wherein said polymer is an elastomer.
4. The composition of claim 3, wherein said elastomer is selected from the group consisting of nitrile rubber, hydrogenated nitrile rubber, carboxyl nitrile rubber, silicon rubber, ethylene-propylene-diene copolymers, fluoroelastomers and perfluoroelastomers.
5. The composition of claim 2 wherein said polymer is a thermoplastic.
6. The composition of claim 5, wherein said thermoplastic is selected from the group consisting of Teflon[®], polyetheretherketone, polypropylene, polystyrene and polyphenylene sulfide.
7. The composition of claim 1 wherein said hydrogel is selected from the group consisting of: methylcellulose, cellulose acetate pthalate and hydroxypropyl methylcellulose polymers, poly (ethylene oxide) polymers, guar, derivatized guar, polyacrylamide, silicon-based polymers and fluorosilicone-based polymers.
8. The composition of claim 1 wherein said hydrogel is a metal complex of a polymer selected from the group consisting of: methylcellulose, cellulose acetate pthalate and hydroxypropyl methylcellulose polymers, poly (ethylene oxide) polymers, guar, derivatized guar, polyacrylamide, silicon-based polymers and fluorosilicone-based polymers.
9. A seal for use in a wellbore comprising the composition of claim 1.
10. The composition of claim 1, wherein said composition forms a seal.
11. The composition of claim 10, wherein said seal is an o-ring.

12. The composition of claim 10, wherein said seal is a t-seal.
13. The composition of claim 10, wherein said seal is a chevron seal.
14. The composition of claim 10, wherein said seal is a spring seal.
15. The composition of claim 10, wherein said seal is a packer element.
16. The composition of claim 10, wherein said seal is a bridge plug.